L 40900-66

ACC NR: AP6009937

P16 transistor (16 to 350 kc). The basic specifications of the inductive relay are: operating frequency: 25 kc; sensitivity: 150—200 mm; length of connecting wire to oscillator: up to 50 m; a 24-v dc MKU-48 relay; and a 220-v ac 50-cps feed voltage. Orig. art. has: 3 figures.

SUB CODE: 09/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

L 39946-66

ACC NR: AP6014686   SOURCE CODE: UR/0108/65/020/012/0061/0064

AUTHOR: Bukhviner, V. Ye. (Active member); Istomina, G. V. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Discrete frequency and phase keyers (manipulators)

SOURCE: Radiotekhnika, v. 20, no. 12, 1965, 61-64

TOPIC TAGS: frequency shift telegraphy, phase shift telegraphy, radio telegraphy, carrier frequency, electronic feedback, circuit design

ABSTRACT: Known methods are described of designing discrete frequency keyers and phase keyers that ensure high stability of subcarrier frequencies and high accuracy of deviation. To obtain a stable frequency keying without phase break, the use of a stable r-f oscillator with a controllable pulse-frequency divider is recommended; the pulse frequency should be a multiple of the marking rate; the feedback must be controlled by keying signals. During the release period, the divider output pulses are fed to its input via the feedback. The accurate phase keying can be obtained from a higher r-f oscillator with a controllable frequency divider; if the keying signals are unipolar, the phase-shift keying will result. Semiconductor logic elements are recommended for the above circuits. Orig. art. has: 5 figures and 5 formulas.

SUB CODE: 17, 09 / SUBM DATE: 31May64 / ORIG REF: 005

Card 1/1   11b   UDC: 621.376.52

SHARIKIN I. A.

Synchronous start-stop regenerator for radio communication. Vest. svyazi 25 no.5:12-14 My '65.

1. Vedushchiy konstruktor Nauchno-issledovatel'skogo instituta Ministerstva svyazi SSSR.

L 39116-66   EWT(d)/FSS-2

ACC NR: AP6030364   SOURCE CODE: UR/0106/66/000/005/0035/0042

AUTHOR: Bukhviner, V. Ye.
                                                                        4/0
                                                                        _B

ORG: none

TITLE: Transformation of keying rates in transmission of discrete signals q

SOURCE: Elektrosvyaz', no. 5, 1966, 35-42

TOPIC TAGS: signal transmission, multichannel communication

ABSTRACT: An analysis of problems of rate transformations in transmission of discrete signals in the coupling of single-channel wire line systems with multichannel systems of radio channel multiplexing. A circuit is presented for the rate transformer, and the basic parameters of the apparatus are noted. A method for alignment of the oscillators in a discrete synchronization system is suggested. The parameters of the transformation apparatus are determined by the parameters of the synchronization system. The authors recommend the usage of feedback from the output of the controlled divider to its input for periodic alignment of the frequency of the quartz oscillator in the discrete synchronization system. Orig. art. has: 4 figures and 2 tables. [JPRS: 37,061]

SUB CODE: 17 / SUBM DATE: 06Sep65 / ORIG REF: 005

Card 1/1 mlp   UDC: 621.391.14

L 08293-67

ACC NR: AP6032287   SOURCE CODE: UR/0106/66/000/009/0009/0017

AUTHOR: Bukhviner, V. Ye.; Malygin, V. B.

33
B

ORG: none

TITLE: Analysis of time distortions of digital signals in SW radio channels

SOURCE: Elektrosvyaz', no. 9, 1966, 9-17

TOPIC TAGS: telegraph signal, signal shape, signal distortion, digital system

ABSTRACT: A study of time distortions of telegraph signals is described. Statistical·measurements were made on 6 SW telegraph channels. The transmitter power was 20 kw and the receivers used broadside array antennas. A telegraph reliability analyzer was used to measure cumulative distortion. Receiver output (see Fig. 1) was applied to the analyzer input, where it controlled the formation of unipolar pulses. These pulses were applied to a synchronizing circuit (4) and distortion selectors (15—19). A crystal-controlled clock oscillator (2) and a buffer frequency divider enabled the synchronizing circuit to operate at various transmission speeds. Ten-stage pulse delay lines (5—14) formed reference pulses. The reference and input pulses were compared

Card 1/3   UDC: 621.391.833
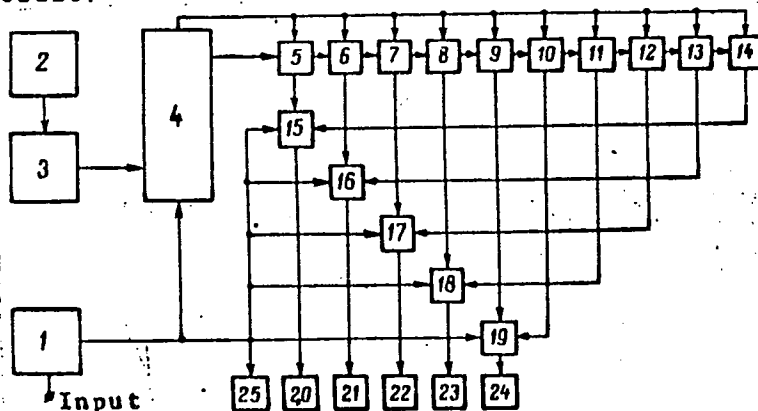
L 08293-67
ACC NR: AP6032287

Fig. 1. Block diagram of telegraph reliability analyzer.

in the distortion selectors and time distortions from 0 to 50% were
registered by counters (20—24) in 5 discrete steps. A separate counter
(25) registered the total number of pulse trains in order to determine
the measurement error. The probability density distribution of time
distortions in the 0—10% region closely approximates that of a normal
distribution; in the 15—50% region it approximates that of an expo-
nential. Transmission quality was found to depend on the path

Card 2/3

ACC NR: AP6032287   ()

direction; the highest quality was obtained for paths lying in meridian
and south-to-east directions. Orig. art. has: 10 figures and 2 tables.

SUB CODE: 17/ SUBM DATE: 27Nov65/ ORIG REF: 006/ OTH REF: 001

Card 3/3 LS

BUKHVISTOV, N., inzh.

Tashkent housing construction combine. Zhil.stroi. no.8:2-6
Ag '61.   (MIRA 14:8)
    (Tashkent--Precast concrete construction)
        (Tashkent--Apartment houses)

BUKHVITS, K.I.

BUKHVITS, K.I.; PRYANISHNIKOV, S.K.

Remarks about the new textbook on the repair of flax-spinning machines ("Construction, assembly, repair, and adjustment of wet-spinning flax machinery."G.A.Sobol'ev. Reviewed by K.I. Bukhvits, S.K.Prianishnikov). Tekst.prom.14 no.12:50-52 D'54.
(Spinning machinery)(Sobol'ev, G.A.)   (MLRA 8:2)

BUKHVOSTOV, A., spets. red.; VYALKIN, A., red.; KUZIN, N.,
tekhn. red.

[Multiple machining of parts] Gruppovoi metod obrabotki
detalei. Orel, Orlov koe knizhnoe izd-vo, 1963. 48 p.
(MIRA 16:12)
(Metal cutting)

31728
S/056/61/041/006/036/054
B125/B102

$\mathscr{Q}\mathscr{Y}.6\,\mathscr{Q}00$

AUTHORS: Bukhvostov, A. P., Shmushkevich, I. M.

TITLE: Depolarization of negative muons in the production of muonic
             atoms on spin-1/2 nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
             no. 6(12), 1961, 1895-1906

TEXT: The hyperfine structure of slightly excited levels in mesic atoms
is assumed to be greater or equal to the level width. In the initial
state where the hyperfine splitting is much smaller than the level width,
the polarization remains constant. Subsequently, the muon falls to a
level with a fine splitting that is great relative to the width. This
applies also to all other levels traversed by the muon. At the end of
this second stage, the muon polarization is about 1/3 in every fine-
structural state. In the F=0 state, the muon is not polarized, and the
mean spin of the meson on the K shell amounts to 3/4 of the mean spin in
the F=1 state (F = total moment). The table contains the calculated
values of the ratios denoted by β (polarization of the muon on the K shell

Card 1/6

Depolarization of negative ...

to the polarization at the end of the second stage). The last column summarizes the values of

$\beta = \dfrac{1}{2I + 1} \beta_{I-1/2} + \dfrac{I + 1}{2I + 1} \beta_{I+1/2}$. The density matrices $\varrho^{(f)}$ and ϱ in the final and initial state, respectively, are interrelated by

$\varrho^{(f)}_{\nu\nu'} = \exp\left\{-i\omega_{\nu\nu'}t\right\} \mathcal{S} \omega_n \varrho^{(f_n)}_{\nu\nu'}$ (1) and

$$\rho^{(f_n)} = N_n \sum_{\mu\mu'} \frac{H_{\nu\mu}H^+_{\mu'\nu'}}{1 + i(\omega_{\mu\mu'} - \omega_{\nu\nu'})\tau_M} \sum_{\epsilon\epsilon'} \frac{H_{\mu\epsilon}H^+_{\epsilon'\mu'}}{1 + i(\omega_{\epsilon\epsilon'} - \omega_{\nu\nu'})\tau_L} \cdots$$

$$\cdots \sum_{\alpha\alpha'} \frac{H_{\beta\alpha}H^+_{\alpha'\beta'}}{1 + i(\omega_{\alpha\alpha'} - \omega_{\nu\nu'})\tau_A} \rho_{\alpha\alpha'}. \qquad (2),$$

respectively. Here, $H_{\alpha\beta}$ etc. denote the matrix element for the transition of the system from state α to state β with emission of a quantum or an Auger electron; τ_A and τ_B are the lifetimes of the levels A, B, ...; $\omega_{\beta,\beta'} = (E_\beta - E_{\beta'})/\hbar$; E_β and $E_{\beta'}$ are the energies of the sublevels β and β'

Card 2/6

Depolarization of negative ...

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B125/B102

of the same group B; S indicates summation over the various cascades; w_n is the probability of the n-th cascade. The normalization factor N_n is obtained from

$Sp_\varrho(f_n) = 1.$ After averaging over time one finds

$$\rho^{(F)} = S_n w_n \rho^{(F_n)} ;$$ (3),

$$\rho^{(F_n)} = N_n \, D \left(\sum_{\mu\mu'} \frac{H_{\nu\mu} H^+_{\mu'\nu'}}{1 + i\omega_{\mu\mu'} \tau_M} \sum_{\epsilon\epsilon'} \frac{H_{\mu\epsilon} H^+_{\epsilon'\mu'}}{1 + i\omega_{\epsilon\epsilon'} \tau_L} \cdots \sum_{\alpha\alpha'} \frac{H_{\beta\alpha} H^+_{\alpha'\beta'}}{1 + i\omega_{\alpha\alpha'} \tau_A} \, \rho_{\alpha\alpha'} \right),$$ (4).

The symbol D indicates the elimination of elements for which $\omega_{\nu\nu'} \neq 0$. For

I = 1/2, the relation

$$\rho = N \left(1 + a_1 \mathbf{j} \mathbf{I} + n \left\{ a_2 \mathbf{j} + a_3 \mathbf{I} + a_4 \, [\mathbf{j} \mathbf{I}] + a_5 \left(\mathbf{j} \, (\mathbf{j} \mathbf{I}) + (\mathbf{j} \mathbf{I}) \mathbf{j} - \tfrac{2}{3} j (j + 1) \mathbf{I} \right) \right\} \right),$$ (5)

is obtained for the group of states with definite n, l, and j. a_i are real coefficients. From $Sp_\varrho = 1$ it follows that

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Depolarization of negative ...

$N = (2j + 1)^{-1}(2I + 1)^{-1}$. In

$$p^{(F)} = \frac{1}{4}(1 + a_1^F jI + a_3^F nF) = \frac{1}{4}[(1 + \frac{1}{4}a_1^F + a_3^F nF)P_+ + \\ + (1 - \frac{3}{4}a_1^F + a_3^F nF)P_-] = \frac{1}{3}p_+(1 + \frac{3}{2}\lambda^F nF)P_+ + p_- P_-. \quad (19),$$

$P_+ = (3 + 4\vec{j}\vec{I})/4$ and $P_- = (1 - 4\vec{j}\vec{I})/4$ are the operators of the projection
on the F=1 and F=0 states, and

$$p_+ = \frac{3}{4}\left(1 + \frac{1}{4}a_1^F\right), \qquad p_- = \frac{1}{4}\left(1 - \frac{3}{4}a_1^F\right). \quad (20)$$

are the probabilities of the corresponding states. The parameter
$\lambda^F = (2/3)a_3^F/(1 + (1/4)a_1^F)$ is equal to the polarization of the muon in the
triplet state of the K shell. The depolarization coefficient
$\beta_K = \langle \vec{s}_K \vec{n} \rangle / \langle \vec{s} \vec{n} \rangle$ reads

$$\beta_K = \frac{a_3^F}{2\lambda} \frac{j+1}{j(j+1)-l(l+1)+3/4} = \frac{a_3^F}{2\lambda} \times \begin{cases} 1 & \text{if } j = l + 1/2 \\ -(j+1)/j & \text{if } j = l - 1/2 \end{cases}$$

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Depolarization of negative ...

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with $\beta_K = \sum_n w_n \beta_n$. In this sum, which goes over all cascades starting from the initial level, β_n denotes the depolarization coefficient for a definite cascade. For the transition of a muon from the initial state to the K shell,

$$q_{73}^F = a_3 + \frac{4}{3} \sum_{i=0}^{l} \frac{i_i}{2i_i+1} \operatorname{Re} A^{(i)} (1 - x_i), \quad A^{(l+1)} = A^{(l)} x_i + \frac{2\gamma}{4j_i^2-1} \quad (29)$$

is valid in the final state. Here the sum has to be taken over all intermediate levels in the respective cascade transition, and i = 0, $(j_i = j)$. Two limiting cases are considered: (1) If the hyperfine splitting (except the K shell) is everywhere small compared to the level width, then

$$A^{(1)} = \frac{6\lambda}{2j+1} + \frac{12\lambda}{4j^2-1} = \frac{6\lambda}{2j-1}, \quad A^{(2)} = \frac{6\lambda}{2j-3} \text{ и т. д.;} \quad (31).$$

$$A^{(l)} = \frac{6\lambda}{2j_l+1}, \quad A^{(l)} = 3\lambda,$$

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(2) If the hyperfine splitting is greater than the level width, then the depolarization on transition from a state with $j = 1 + 1/2$ is about $4/3$ less than in the first case. In the presence of a hyperfine structure, the muon consequently polarizes the nucleus during transitions between excited levels. Existing experimental data on the depolarization of muons on nuclei with $I = 1/2$ (at present, only for P^{31}) confirm the theoretical considerations discussed here. There are 1 table and 11 references: 4 Soviet and 7 non-Soviet. The four most recent references to English-language publications read as follows: H. Überall. Phys. Rev. 114, 1640, 1959; M. E. Rose, Bull. Am. Phys., 4, 80, 1959; R. A. Mann, M. E. Rose. Phys. Rev., 121, 293, 1961; E. Lubkin, Phys. Rev., 119, 315, 1960.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences USSR)

SUBMITTED: July 6, 1961

Card 6/6

BUKHVOSTOV, A.P.; FRENKEL', V.Ya.

Temperature distribution in round and rectangular plates
cooled by radiation in a vacuum at a given temperature along
the plate's contour. Inzh.-fiz.zhur. 5 no.8:78-80 Ag '62.
(MIRA 15:11)

1. Fiziko-tekhnicheskiy institut AN SSSR imeni A.F.Ioffe,
Leningrad.

(Heat—Radiation and absorption)

24.6610

AUTHORS: Bukhvostov, A. P., Frenkel', V. Ya., Shekhter, V. M.

TITLE: Disintegration of a photon into two photons in the nuclear Coulomb field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 2(8), 1962, 655 - 660

TEXT: Integrating the differential cross section for the disintegration of an incident low-energy photon into two photons in the nuclear Coulomb field over the angle φ between the planes $(\vec{k}\vec{k}_1)$ and $(\vec{k}\vec{k}_2)$ gives rise to

$$d\sigma = Z^2\alpha^6 \frac{\omega \omega_1^2 \omega_2^2}{4\pi^3 (45m^4)^2} (278 Y_1 - 157 Y_2)\, d\omega_1 dx_1 dx_2; \qquad (4)$$

Card 1/3

Disintegration of a photon into...

$$Y_1 = -x_1 - x_2 - \frac{1}{2}\left(\frac{\omega_1}{\omega_2}x_1^2 + \frac{\omega_2}{\omega_1}x_2^2\right) + \left[\left(x_1 + \frac{\omega}{\omega_1}x_2\right)\left(x_2 + \frac{\omega}{\omega_1}x_1\right) + \right.$$

$$\left. + \frac{\omega}{\omega_1^2\omega_2^2}(\omega_1 x_1 + \omega_2 x_2)(\omega_1^2 x_1^2 + \omega_2^2 x_2^2)\right]w^{-1/2} - $$

$$- \frac{\omega^3}{2\omega_1^4\omega_2^4}(\omega_1^2 x_1^2 + \omega_1\omega_2 x_1 x_2 + \omega_2^2 x_2^2)^2(\omega_1^2 x_1 + \omega_2^2 x_2 + \omega_1\omega_2 x_1 x_2)\,w^{-3/2}, \qquad (5).$$

$$Y_2 = \frac{\omega_1}{\omega_2}x_1 + \frac{\omega_2}{\omega_1}x_2 - \left[\left(\frac{\omega_1}{\omega_2}x_1 - \frac{\omega_2}{\omega_1}x_2\right)^2 + \frac{\omega}{\omega_1\omega_2}x_1 x_2 (\omega_1 x_1 + \omega_2 x_2)\right]w^{-1/2},$$

$$w = \left(\frac{\omega_1}{\omega_2}x_1 - \frac{\omega_2}{\omega_1}x_2\right)^2 + 2\frac{\omega}{\omega_1\omega_2}x_1 x_2 (\omega_1 x_1 + \omega_2 x_2).$$

The equation

$$\frac{d\sigma}{dx_1} = \frac{139 Z^2 \alpha^5}{60\pi^2}\frac{\omega^6}{(45 m^4)^2}. \qquad (7)$$

results after integrating the differential cross section over x_2 with $x_1 = 0$ and integrating again over $\dot{\omega}_1$. $x_1 = 1 - \vec{k}\vec{k}_1/\omega\omega_1$; $x_2 = 1 - \vec{k}\vec{k}_2/\omega\omega_2$; $x = 1 - \vec{k}_1\vec{k}_2/\omega_1\omega_2$. $\vec{k}$ and ω are respectively the

Card 2/6 4

Disintegration of a photon into...

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B125/B102

momentum and energy of the incident photon; $\vec{k}_1$, $\vec{k}_2$ and ω_1, ω_2 are respectively the momenta and energies of the final photons. Numerical integration, absolutely necessary for $x_{1,2}$, gives the angular distribution of one of the final photons with a fixed energy ω_1 when the direction of the other photons after impact is arbitrary (curves 1 to 4 in the Fig.). For small angles, the maximum for $\omega_1 \approx \omega_2$ corresponds to the maximum cross section for small q^2 ($q^2 = (\vec{k}_1 + \vec{k}_2 - \vec{k})^2$). This maximum shows up even more clearly when the momenta of both protons are fixed in direction. Integrating the differential cross section over the energy of the final proton results in the broken curve (5) and integrating this curve over the angle yields

$$\sigma = 12,2\, Z^2 \alpha^5 \omega^6 / 4\pi^2 (45\, m^4)^2 = 4,65 \cdot 10^{-36} Z^2 (\omega/m)^6 \, cm^2. \quad (8).$$

When $Z = 80$ and $\omega \approx m$ (m = electron mass), the cross section $\sigma \sim 3 \cdot 10^{-32} cm^2$ is of the same order of magnitude as the photon-photon scattering cross

Card 3/4

Disintegration of a photon into...

section. The above results hold for negligible screening of the nuclear Coulomb field. When $\omega/m \approx 1/137$, the cross section

$$\sigma = \frac{641}{3^{10}5^3\pi^3} Z^2\alpha^5 (\omega a)^4 \frac{\omega^5}{m^5}.$$ (11),

obtained by allowing for screening, is equal to $0.41 \cdot 10^{-49} Z^2 \text{cm}^2$. When $\omega \ll 2m$, (8) is 2.5 times larger than the total cross section

$$\sigma \approx \frac{7\cdot139 (64 \ln 2 - 23)}{45^3\cdot 2^9 \cdot \pi^2} Z^2\alpha^5 \frac{\omega^5}{m^5},$$

calculated by the Weizsäcker-Williams method. For high energies one obtains $\sigma = \gamma(2Z^2\alpha^5/\pi m^2)(\ln(\omega/m) - 1)$. There is 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: March 13, 1962

Card 4/0

BURAT, C. M.; BUKHVOSTOV, A. P.; POPOV, M. P.

"Possible Experiments for the Determination of Pseudoscalar Contributions in μ-Capture."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

FTI (Physico Technical Inst)

BUKHVOSTOV, A.P.; POPOV, N.P.

Capture of μ -mesons by polarized nuclei with spin 1/2.
Zhur. eksp. i teor. fiz. 46 no.5:1842-1852 My '64.

(MIRA 17:6)

1. Fizko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR.

SKOROKHODOV, N.Ye., dotsent; KUCHKO, I.I., inzhener; KOROLEV, A.S.;
     SERKIN, M.G.; BUKHVOSTOV, I.G.

     Investigation of the rolling of experimental rails. Trudy TSNII
     MPS no.111:25-32 '55.   (MLRA 9:5)
                    (Railroads--Rails)

BUKHVOSTOV, I.G.

Interfactory institute for the study and introduction of progressive work practices for the operation of soaking pits and blooming mills. Metallurg no.3:34-36 Mr '56.   (MLRA 9:9)

1. Glavnoye upravleniye gosudarstvennoy metallurgicheskoy promyshlennosti tsentra i Vostoka Ministerstva chernoy metallurgii SSSR.

     (Rolling (Metalwork))

BUKHVOSTOV, I.G.

130-7-23/24

AUTHOR: Bukhvostov, I.G.

TITLE: The Cornigliano Works in Genoa (Zavod Kornil'yano v Genuye)

PERIODICAL: Metallurg, 1957, Nr 7, pp.44-47 (USSR)

ABSTRACT: An account is given of the plant and products of the
Cornigliano works in Italy. The plant includes sintering
machines, coke ovens, blast furnaces, a steel melting shop,
blooming mill, universal reversing four-high stand, a six-
stand mill and a cold-rolling shop. There are 4 figures and
1 table.

AVAILABLE: Library of Congress.

Card 1/1

SOV/133-59-9-15/31

AUTHORS: Belobrov, I.F., Bukhvostov, I.G. and Milikhin, A.Ye.

TITLE: Operation of 850/730/530 mm Continuous Billet Mill with Vertical Rolls in the Chinese People's Republic

PERIODICAL: Stal', 1959, Nr 9, pp 812-817 (USSR)

ABSTRACT: A brief description of the above mill and its operation is given. The equipment of the mill was designed and built in the USSR (Ref 1). Characteristic data of the individual stands - table 1; data on shears - table 2; roll passes - table 3 (Fig 3), table 4 (Fig 4) and table 5. It is stated that the mill is one of the best of its type, suitable for mass production of a wide range of square and round billets. With some additional equipment of the finishing part, the mill can be utilised for rolling of profiles (beams, angles etc). The alternation of horizontal and vertical stands with individual drives from a d.c. variable rpm motor, permits a large variation in the speed practice of rolls (independently from their diameter) which should secure production of high quality products. Mechanised adjustment of vertical and horizontal rolls enables a rapid transfer from one rolling line to another. The mill

Card 1/2

Operation of 650/730/530 mm Continuous Billet Mill with Vertical
Rolls in the Chinese People's Republic

SOV/133-59-9-15/31

is considered as an important achievement of the Soviet
and Chinese designers and machine-builders. There are
4 figures, 5 tables and 1 Soviet reference.

Card 2/2

PHASE I BOOK EXPLOITATION   SOV/3954

Bukhvostov, Nikolay Alekseyevich

Kompleksnyy sposob resheniya energotekhnologicheskikh parametrov prokatki (Over-All Method for Finding the Power and Technological Parameters for Rolling) Moscow, Mashgiz, 1960. 113 p. Errata slip inserted. 2,200 copies printed.

Reviewer: I.M. Pavlov, Corresponding Member, Academy of Sciences USSR; Ed.: Yu.L. Markiz, Engineer; Ed. of Publishing House: Yu. L. Markiz; Tech. Ed.: G.V. Smirnova; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin.

PURPOSE: This book is intended for engineers working in the design departments of machine-construction and metallurgical plants and also for those engaged in work on the automation of rolling mills.

COVERAGE: This book contains material which makes it possible to establish the necessary and sufficient power of the principal engines, depending on a given gage and productivity, and also the optimal relationships and

Card 1/3

Over-All Method for Finding the Power (Cont.)   SOV/3954

significance of the values of fundamental rolling parameters. In actual cases
the book will help to detect and use hidden reserves of power and productivity.
No personalities are mentioned. References are given in footnotes.

TABLE OF CONTENTS:

Card 2/3

Over-All Method for Finding the Power (Cont.)   SOV/3954

Appendix 2. Determination of the Specific Consumption of Energy in the
             Rolling of a Strip
                                                                      93

AVAILABLE: Library of Congress

Card 3/3   AC/wbc/gmp
                                                   8-11-60

BUKHVOSTOV, I.G.; KHUAN SY-TSAN [Huang Ssú-ts'ang]

Expansion of rolling mill practices in the Chinese Peoples'
Republic. Metallurg 5 no.2:37-39 F '60.
                                        (MIRA 13:5)
        (China--Rolling mills)

BUKHVOSTOV, I.G.

Introducing progressive practices in the planning and recording
of the output of economical types of rolled products. Metallurg
9 no.5:27-28 My '64.
                                                    (MIRA 17:8)

1. Gosplan SSSR.

BUKHVOSTOV, N., inzh.

Elements of large-panel buildings in seismic districts of
Uzbekistan. Zhil. stroi. no.2:2-6 '62.   (MIRA 16:1)

(Uzbekistan—Earthquakes and building)
(Uzbekistan—Apartment houses)

BUKHVOSTOV, N. V., Cand of Tech Sci -- (diss) "Problems of earthquake proof buildings with walls made with simple construction." Tashkent, 1957, 14 pp (Institute of Construction, Academy of Sciences Uzbek SSR), 150 copies (KL, 32-57, 93)

BUKHVOSTOV, N.V.

Analysis of earthquake-caused building damage on the basis of
earthquakeproof construction principles. Biul. Sov. po seism.
no.3:137-150 '57.
(MIRA 11:5)
            (Ashkhabad--Earthquakes and building)

BUKHVOSTOV, N.V., inzh. Prinimali uchastiye: KOZEL, Yu.V., inzh.; BOL'SHEM,
N.Ya., inzh.. GORSKIY, G.Yu., kand.tekhn.nauk, red.; POZNYAKOV,
A.P., red.izd-va; KAMINSKIY, M.P., tekhn.red.

[Temporary instructions on the use of lightweight walls built of
solid bricks in earthquake-proof construction of houses and public
buildings (VSN 02-58)] Vremennaia instruktsiia po primeneniiu
sten oblegchennykh konstruktsii iz polnotelogo kirpicha v seismo-
stoikom stroitel'stve zhilykh i grazhdanskikh zdanii (VSN 02-58).
Tashkent, Izd-ve Respublikanskogo proektnogo in-ta "Uzgosproekt,"
1958. 67 p.   (MIRA 12:6)

1. Uzbek S.S.R. Ministerstvo stroitel'stva. 2. Respublikanskiy
proyektnyy institut "Uzgosproyekt" (for Bukhvostov, Kozel, Bol'shem).
        (Walls)   (Earthquakes and building)

85037

9.4300 (1137, 1138, 1143)

S/126/60/010/004/003/023
E073/E535

AUTHORS: Lapkin, N.I., Bukhvostova, N. G. and Falaleyev, G.A.

TITLE: Influence of Heat Treatment on the Magnetic Properties
             of Nickel-Zinc Ferrites

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.4,
            pp. 521-526

TEXT: The influence was investigated of the annealing
(ferritizing) temperature of the mass and of the sintering temperature of components on the initial permeability μ_o, tg δ, the
coercive force H_c, the residual induction B_r and the Curie point
θ of nickel-zinc ferrites of the following composition by weight:
Fe_2O_3 - 66.0%, NiO - 12.0%, ZnO - 22.0%. The process of production
of the specimens is briefly described. μ_o and tgδ were measured
by means of a Maxwell bridge at 1000 cps, H_c, B_r and B_m were
measured by a ballistic method. In the experiments over 500
toroidal specimens with an average diameter of 20 mm and a height
of 5 mm were investigated. The first series of experiments were
made for the purpose of determining the dependence of the magnetic
properties and also the porosity of the tested nickel-zinc ferrites
on the sintering temperature (1000 to 1350°C) for a constant
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Influence of Heat Treatment on the Magnetic Properties of Nickel-
Zinc Ferrites

ferritizing temperature (1050°C) and a constant duration of the
sintering process (4 hours).   For a sintering temperature of 1100°C
the magnetic properties proved very low (Fig.1). With increasing
sintering temperature,up to 1250°C ,he maximum induction and the
initial permeability increased considerably and the coercive force
and the loss angle tangent decreased. X-ray structural and
metallographic analyses indicate that for a sintering temperature
of 1250°C a solid solution of nickel-zinc ferrite is formed.
Further increase in the sintering temperature leads to a change in
the phase composition, namely, a decomposition of the zinc ferrite,
an increase in porosity (Fig.2) and poorer magnetic properties.
The second series of experiments was made for determining the
influence of the annealing temperature on the magnetic properties
of ferrites sintered at 1250, 1300 and 1350°C; the results are
plotted in Fig.3. The ferritizing process has a considerable
influence on the shrinkage, the magnetic induction, the initial
magnetic permeability and the loss angle. The coercive force is

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Influence of Heat Treatment on the Magnetic Properties of Nickel-
Zinc Ferrites

only slightly affected by changes in the annealing temperature.
Comparison of the results obtained on the influence of the annealing
temperature of the mass and the sintering temperature of the
finished components (Fig.4) indicates that the process of
ferritizing has a considerable influence on the magnetic properties
of ferrites.   The Curie point, 160°C, is determined by the
chemical composition and does not depend on the heat treatment. The
following optimum temperatures were determined: annealing 1050 to
1150°C, sintering not exceeding 1250°C.   After annealing at
1050°C and sintering at 1250°C the tested ferrites had an initial
permeability of 1000 to 1100 gauss/Oe, tgδ equalled 0.5 to 0.6.
Such ferrites proved suitable as cores for surge transformers with
surge durations of 0.6 to 1.0 μsec.   For shorter pulses, ferrites
with lower initial permeabilities and loss angles have to be used.
Comparative tests with surge transformers have shown that ferrite
cores are superior to cores of the magnetically soft alloys
79H5M (79N5M) and 50H(50N). By using ferrite cores it proved
possible to reduce the weight and size of surge transformers by a
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Influence of Heat Treatment on the Magnetic Properties of Nickel-Zinc Ferrites

factor of 15 to 20, considerably reducing their cost and ensuring the obtaining of stable,square topped pulses with steep fronts. There are 4 figures and 4 references: 3 Soviet and 1 English.

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov (Ural Scientific Research Institute of Ferrous Metals)

SUBMITTED: November 14, 1959

Card 4/4

S/276/63/000/002/014/052
A052/A126

AUTHORS: Lapkin, N.I., Krasnoperov, G.V., and Bukhvostova, N.G.

TITLE: Investigation of heat treatment of soft magnetic alloys

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no.2,
             1963, 61, abstract 2B270 (Tr. Ural'skogo n.-i. in-ta chern.
             metallov, 1, 1961, 160-175)

TEXT: Heat treatment of Fe-Ni 50H (50N), 79HM (79NM) and Fe-Al Ю16
(Yu16)soft magnetic alloys was investigated. Fe-Ni alloys were hot rolled
on a 300 merchant mill. 50N and 79NM alloys after normalizing (heating to
1,050°C, holding 710 min, air cooling) and etching were cold rolled on a
6-roll mill with 87.5% reduction in area without intermediate annealing.
The heat treatment of these alloys was carried out in an inertialess MПB-2
(MPV-2) vacuum furnace under different conditions: the annealing temperature
was varied from 950 to 1,350°C, the holding from 0.25 to 3 hours, the rate
of cooling in the 1,350-600°C range from 50 to 500°C/hour. From the tem-
perature of 600°C the samples were cooled in a switched-off furnace at a
rate from 100 to 5°C/min. Yu16 alloy was rolled to 0.35mm thickness on a

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Investigation of heat treatment...

2-roll hot rolling mill and then annealed in a saltpeter bath without protecting atmosphere under following conditions: temperature 800, 900, 1,000, 1,100 and 1,200°C, holding 1 hour, cooling to hardening temperature at a rate of 100°C/hour. The hardening temperature of Yu16 alloy was varied from 450 to 700°C. As hardening media water, 20% caustic soda solution and transformer oil were used. The effect of annealing and hardening temperature on the magnetic properties of 50N, 79NM and Yu16 alloys was determined as well as the effect of heat treatment on the thermal stability and ageing of these alloys. As a result of the investigations it has been established that the highest values of magnetic permeability can be reached for 50N alloy at an annealing temperature of 1,200-1,250°C and for 79NM alloy at 1,150-1,300°C. Tempering at ordering temperature (480°C) reduces the heterogeneity and increases the thermal stability of magnetic properties of 79NM alloy. The temperature of secondary recrystallization in 50N alloy is in the 1,200-1,400°C range. Yu16 alloy has the highest magnetic properties after annealing at 950-1,050°C and oil hardening at 650°C. There are 7 figures and 6 references.

T. Kislyakova

(Abstracter's note: Complete translation.)

Card 2/2

S/020/63/148/005/002/029
B112/B186

AUTHOR: Bukhyalov, A. M.

TITLE: Plotting of nomograms for first-genus equations with three
           variables

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1005-1008

TEXT: The problem of plotting nomograms with one curvilinear and two
rectilinear scales for an equation of the form

$$F(u_1, u_2, u_3) = 0 \qquad\qquad (1)$$

is reduced to the problem of transforming Eq. (1) into an equation of the
form

$$\begin{vmatrix} f_\alpha & f_\alpha & 1 \\ f_\beta & 0 & 1 \\ f_\gamma & 1 & 1 \end{vmatrix} = 0. \qquad\qquad (4)$$

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Plotting of nomograms for first-genus ... $S/020/63/148/005/002/029$
B112/B186

The results are

$$f_\mu = C_\mu I_\mu(u_\mu) = C_\mu \int_{\bar{u}_\mu}^{u_\mu} \frac{du_\mu}{\delta_{\mu 33}(\bar{u}_\alpha, u_\mu)} \tag{11}$$

$$f_\alpha(u_\alpha) = \frac{C_\beta C_\gamma I_\beta(\theta_\beta(u_\alpha, \bar{u}_\gamma)) I_\gamma(\theta_\gamma(u_\alpha, \bar{u}_\beta))}{C_\beta I_\beta(\theta_\beta(u_\alpha, \bar{u}_\gamma)) + C_\gamma I_\gamma(\theta_\gamma(u_\alpha, \bar{u}_\beta))}, \tag{12}$$

$$\varphi_\alpha(u_\alpha) = \frac{C_\beta I_\beta(\theta_\beta(u_\alpha, \bar{u}_\gamma))}{C_\beta I_\beta(\theta_\beta(u_\alpha, \bar{u}_\gamma)) + C_\gamma I_\gamma(\theta_\gamma(u_\alpha, \bar{u}_\beta))}. \tag{13}$$

The function $\delta_{\mu 33}$ is the determinant

$$\begin{vmatrix} g_\mu, & \partial g_\mu/\partial u_\mu \\ g_\mu/\partial u_\alpha, & \partial^2 g_\mu/\partial u_\mu \partial u_\alpha \end{vmatrix},$$

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Plotting of nomograms for first-genus ...   S/020/63/148/005/002/029
B112/B186

where $g_\mu(u_\alpha, u_\mu) = du_\mu/du_\alpha$.

ASSOCIATION: Belorusskiy politekhnicheskiy institut (Belorussian
Polytechnical Institute)

PRESENTED: April 20, 1962, by A. A. Dorodnitsyn, Academician

SUBMITTED: December 26, 1961

Card 3/3

ASTAF'YEV, N.N., kand.tekhn.nauk; MOROZOV, V.A., inzh.; BUKI, A.A., inzh.

   Using nonlinear chains for the accurate measurement of current
   strength. Svar. proizv. no.10:33-35 O '63.   (MIRA 16:11)

   1. Kishinevskiy sel'skokhozyaystvennyy institut (for Morozov).
   2. Institut energetiki AN Moldavskoy SSR (for Buki).

L 57852-65   EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c)   Pf-4   JD/HM

ACCESSION NR: AP5012642

UR/0135/65/000/005/0014/0016
621.791.011:621.791.92

AUTHOR: Buki, A. A. (Engineer); Astaf'yev, N. N. (Candidate of technical sciences)

TITLE: On the causes of burnout of elements of the parent and filler metal in vibroarc build-up welding

SOURCE: Svarochnoye proizvodstvo, no. 5, 1965, 14-16

TOPIC TAGS: metal surfacing, vibroarc welding, filler electrodes, weld metal

ABSTRACT: Tests were made to determine the reasons for the burnout of steel components in build-up welding with a discontinuous arc, and methods for preventing this effect are discussed. It is shown that carbon burnout depends basically on the burning time of the welding arc and that the longer the burning period, the greater the losses of carbon during transfer of the filler metal through the arc. Manganese and silicon burnout depend basically on the total time of arc burning in idle periods (pulse frequencies). When this time is increased the burnout of these elements is decreased. It is concluded that in order to increase the transfer of the components of an electrode wire to the build-up layer in vibroarc welding

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ACCESSION NR: AP5012642

necessary to decrease the arc burning and idle periods (increase the pulse frequency). Orig. art. has: 2 tables.

ASSOCIATION: Kishinevskiy sel'skokhozyaystvennyy institut im. M. V. Frunze (Kishinev Agricultural Institute)

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 011   OTHER: 000

Card 2/2

BUKI, A.A.

Current integrator. Zhur.prikl.khim. 38 no.6:1398-1400 Je '65.

(MIRA 18:10)

Buki, Bela

BIRO, Janos; BUKI, Bela; KOVACH, Arisztid.

Changes in higher nervous function after ischemic shock in
rats. Kisérletes orvostud. 8 no.1:74-84 1956.

1. Budapesti Orvostudomanyi Egyetem Elettani Intezete.
      (SHOCK, exper.
          ischemic, eff. on conditioned reflexes in rats (Hun))
      (REFLEX, CONDITIONED
          eff. of ischemic shock in rats (Hun))

BUKI, B.

BIRO, J.; BUKI, B.; KOVACH, A. G. B.

Changes of the higher nervous activity following ischaemic
shock. Acta physiol. hung. 10 no.2-4:277-289 1956.

1. Institute of Physiology, University Medical School, Budapest.
    (SHOCK, exper.
        ischemic, changes & restoration of CNS activity in
        rats following shock.)
    (CENTRAL NERVOUS SYSTEM, physiol.
        changes & restoration of activity following exper.
        ischemic shock in rats)

BUKI, Bela; BIRO, J.; DENES, Ivan; KOVACH, Arisztid;

Conditioned reflex method for experiments to be performed on several
rats simultaneously. Kiserletes orvostud 9 No. 5-6: 545-550 Oct-Dec 59.

1. Budapesti Orvostudomanyi Egyetem Elctanni Intezete.

(REFLEX, CONDITIONED
method for exper. performed on several rats simultaneously
(Hun.)

$Buki, B.$

BIRO, J.; BUKI, B.; DENES, I.; KOVACH, A.G.B.

Higher nervous activity of adrenalectomized animals after ischaemia of
the limbs. Acta physiol. hung. 14 no.1:45-56 1958.

1. Institute of Physiology and Department of Urology, Medical University,
Budapest.
        (EXTREMITIES, blood supply
            exper. ischemiz, eff. on higher nerv. activity in adrenalec-
            tomized rats)
        (CENTRAL NERVOUS SYSTEM, physiol.
            eff. of exper. ischemia of extremities on higher nerv.
            activity in adrenalectomized rats)
        (ADRENALECTOMY, exper.
            same)

RUSZNYAK, Istvan, akademikus; STARK, Ervin az orvostudomanyok kandidatusa;
    FOLDI, Mihaly, az orvostudomanyok doktora; BUKI, Bela;
    JUVANCZ Ireneusz, dr.; FISCHER, Janos, matematikus

Investigations in determining the effect of rutin and ascorbic
acid on the capillary resistance in rats. Biol orv kozl MTA
13 no.1-2:1-10 '62.

1. Magyar Tudomanyos Akademia Kiserleti Orvostudomanyi Kutato
Intezete (for Rusznyak, Stark, Foldi, and Buki). 2. Magyar
Tudomanyos Akademia Alkalmazott Matematikai Intezete Biometriai
Csoportja vezetoje (for Juvancz).

KISFALUDY, Sandor; BUKI, lela; MESZAROS, Sandor

Effect of oral amino acids on the ammonia concentration in the portal blood. Kiserl. orvostud. 16 no.4:385-390 Ag '64.

1. Budapesti Orvostudomanyi Egyetem I sz. Belklinikaja.

HUNGARY

HOLLO, Istvan, Dr, BUKI, Bela, Dr, FEHER, Tibor, Dr, KOREF, Oszkar, Dr;
Medical University of Budapest, I. Medical Clinic (director: RUSZNYAK,
Istvan, Dr) (Budapesti Orvostudomanyi Egyetem, I. Belklinika).

"Studies of Osteoporosis with Endocrine Correlations, IV. Postmenopausal
'Osteoporomalacia'."

Abstract: [Authors' Hungarian summary] On the basis of i.v. Ca loading
tests, the postmenopausal patients of the authors who suffer from
bone atrophy were divided into two groups: true osteoporosis and "osteo-
poromalacia". It was pointed out that the two groups differ from each
other not only with respect to the results of the Ca loading test but
also in the excretion of the end products of androgen metabolism and pos-
sibly also in changes in the serum Ca and P level. On the basis of
these studies, the use of androgenic hormones in the treatment of patients
with "osteoporomalacia" does not seem to be sufficiently justified on
theoretical grounds. 5 Hungarian, 11 Western references.

1/1

BUKI, G.; BUKKY, I.

"Mechanical equipment of the atomic power station in Calder Hall. Pt. 2, Thermal circuit and efficiency factor of the power plant."

p. 237 (Energia Es Atomtechnika) Vol. 10, no. 5/6, Aug. 1957
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
     April 1958

BUKI, G.

"Analytical and economic investigation of plutonium production in
nuclear-power reactors." In English, p. 263.

PERIODICA POLYTECHNICA. (Budapesti Muszaki Egyetem) Budapest, Hungary
Vol. 2, No. 4, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

H/008/60/013/04/06/009
B022/B014

AUTHOR: Büki, Gergely

TITLE: Problems of Water Processing in Atomic Power Plants /9

PERIODICAL: Energia es Atomtechnika, 1960, Vol. 13, No. 4-5, pp. 220-232

TEXT: Problems of water processing in atomic power plants must be
studied separately for the cooling system of the reactor (primary cycle)
and the cycle of the power plant (secondary cycle). Besides degassing
and the formation of coatings, the following problems arise in connection
with the primary cycle: 1) As a result of radioactive radiation, part
of the light and heavy water circulating in the reactor decays into
gases. 2) The permissible total quantity of salts in the cooling water
of the reactor is considerably smaller than in the boiler water. 3) The
occurrence of corrosion in power plant reactors may be ascribed to
several causes. It is more dangerous than in boilers. 4) The water is
activated by neutron bombardment. 5) The radioactive water from the
primary cycle must be purified before it is discharged. The constantly
permissible concentration of radioactive substances in water and air is

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Problems of Water Processing in Atomic   H/008/60/013/04/06/009
Power Plants   B022/B014

given on the basis of recommendations made by the International Atomic
Energy Agency (IAEA), and in accordance with the Drinking Water
Standards of the USA and the NBS Handbook (No. 52, 1953). First, the
author describes the effect of radioactivity on water as well as the
decay of water (decay, recombination, increase in decay intensity i_D,
specific recombination rate v_R). Experiments showed that the use of a
recombinator is superfluous in the case of the 5 MW Soviet experimental
atomic power plant. The relation $V_D = i_D \cdot G_r$ kg/mp (Fig. 1) holds for the
water quantity (V_D) that decayed under the action of radioactive
radiation on gases (cf. decay reactions). The degree of water decay in
the EBWR reactor is shown in Fig. 2. Activation and other influences
are dealt with next. Data on water activation are given in Table 2,
while Table 3 supplies the pH and the water resistance as dependent on
the concentration of nitric acid. In water-processing systems, a
distinction is made between systems for water purification and systems
for purification with water discharge (Fig. 3). Fig. 4 illustrates the
operation of the former, and Fig. 5 that of the latter systems. Table 4

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Problems of Water Processing in Atomic Power   H/008/60/013/04/06/009
Plants   B022/B014

shows the part played by the principal isotopes in the activity of
fission products at some time after fission. The procedures of purifying
radioactive water, conventional techniques, reduction of radioactivity
by chemical coagulation (Table 5), coagulation and precipitation (Table 6),
and the influence of the pH of water upon the removal of Ru^{103} by means
of coagulation (Table 7) are thoroughly described. Other problems dealt
with are the reduction of radioactivity by means of sand filtration
(Table 8), addition of lime soda (removal of strontium, Table 9), evap-
oration, ion exchange (Tables 10, 11), phosphate coagulation (Table 12),
addition of cermets (Table 13), and clay (Table 14). There are
5 figures, 14 tables, and 17 references: 4 Hungarian, 2 German, and
11 English.

ASSOCIATION: Budapesti Müszaki Egyetem Höerömüvek Tanszéke (Chair for
             Thermal Power Plants of the Technical University of
             Budapest)

Card 3/3

H/008/62/000/002/002/002
B123/B101

AUTHORS: Büki, Gergely

TITLE: Optimum thermodynamic parameters of reactor cooling

PERIODICAL: Energia és Atomtechnika, no. 2, 1962, 87 - 93

TEXT: This is the first part of a paper dealing with the entire coolant
circuit of a reactor and with a few other problems related to reactor
cooling, such as the temperature course in the coolant, or the ideal cir-
cuit at constant or varying coolant temperature. It is shown that the
efficiency at constant coolant temperature is higher than at varying temp-
erature. The optimum temperature curve of the fuel, which is determined
by the neutron-flux distribution and the heating of the coolant, is ex-
amined. To improve the efficiency, it would be necessary to increase the
temperature to an unlimited extent, which can only be achieved with the
use of materials that are more favorable for nuclear-physical purposes.
There are 5 figures.

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Optimum thermodynamic parameters ...   H/008/62/000/002/002/002
                                         B123/B101

ASSOCIATION: Budapesti Müszaki Egyetem Höerömüvek Tanszéke (Department
               of Thermal Energy, Technical University, Budapest)

Card 2/2

H/008/62/000/004/002/003
D249/D302

26.YY/1
21. 000
AUTHOR: Büki, Gergely

TITLE: Optimum thermodynamical characteristics in reactor cooling

PERIODICAL: Energia és atomtechnika, no. 4, 1962, 171 - 178

TEXT: In the first part of the paper the optimum temperature of the coolant leaving the reactor is investigated. A formula is deduced for the variation of the thermal efficiency as a function of the temperature of the coolant leaving the reactor, when the average temperature of the coolant is computed as the mean of its temperature on entry and departure on the T - S diagram. According to the relationship obtained, the increase of the thermal efficiency and the heat capacity decreasing on the reduction of the temperature difference will result in an optimum temperature for the coolant leaving the reactor. While in the case of coal fired generators this optimalization is not necessary, in the case of atomic reactors when the fuel temperature is maximum the increase of the coolant temperature on leaving the reactor would result in reduction

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H/008/62/000/004/002/003
Optimum thermodynamical characteristics..D249/D302

of the amount of heat removed. The amount of heat removable is pro-
portional to the surface transmitting the heat, the coefficient of
heat transmission, and to the average difference between the tempe-
ratures of the fuel and coolant. The variation of the temperature
difference is examined for: a) Evaporation cooling; b) liquid or
gas cooling. The optimum coolant temperature on its departure from
the reactor is investigated according to the following requirements:
1) To obtain maximum efficiency of the generator. 2) To obtain an
econimical coolant temperature when the starting characteristics
(temperature, pressure) do not vary with the load. In this case the
optimum value of the coolant temperature is determined by the mini-
mum cost of the unit of energy supplied by the generator. This has
been the sole consideration in the case of coal fired generators
where limitations in the maximum obtainable temperature were impo-
sed by the structural materials. 3) In the case of nuclear genera-
tors introduction of a thermal cycle operating with initial charac-
teristics which are variable as a function of the load may be advi-
sable on thermodynamical grounds. The optimum heating of the reactor
coolant is considered, assuming that: 1) The average temperature of
the coolant is constant; 2) The temperature of the coolant is con-
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Optimum thermodynamical characteristics..D249/D302

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stant when it leaves the reactor. Finally the thermodynamical pro-
perties of the ideal coolant and reactor cooling system are discus-
sed. The paper contains a mathematical appendix. There are 7 figures
and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The reference
to the English-language publication reads as follows: A. Levai, et
al, Mutual influences of nuclear power stations and cooperating po-
wer plant systems, World Power Conference Madrid, 1960, v. 7.

ASSOCIATION: Budapesti müszaki egyetem höerömüvek tanszéke (Techni-
cal University Budapest, Department of Heat Engines)

Card 3/3

BUKI, Gergely

Problems of water treatment in atomic power plants. Energia es
atom 13   no.4/5:220-232   Ap-My   '60.

1. Budapesti Muszaki Egyetem Hoerommuvek Tanszeke.

BUKI, Gergely

Role of efficiency of heat cycles in the economic appraisal
of power plants of different types. Energia es atom 14
no.7:301-306 Jl '61.

1. Budapesti Muszaki Egyetem Hoeromuvek Tanszeke.

BUKI, G. (Budapest, XI., Stoczek u.4)

On thermodynamic fundamentals of reactor cooling. Periodica poly-
techn eng   6 no.2:129-145 '62.

1. Lehrstuhl fur Warmekraftwerke, Technische Universitat.
Vorgelegt von Prof.Dr. A.Levai.

BUKI, Gergely, adjunktus

Salt settling in steam superheaters and on turbine blades. Energia es atom 15 no.9:395-405 S '62.

1. Budapesti Muszaki Egyetem Hoeromuvek Tanszeke.

LEVAI, Andras, dr., Kossuth-dijas egyetemi tanar; BUKI, Gergely, muegyetemi
    adjunktus

    Guiding principles for constructing up-to-date power plants. Energia
    es atom 15 no.12:527-544 D '62.

    1. Magyar Tudomanyos Akademia levelezo tagja; Nehezipair mi-
    niszterhelyettes; "Energia es Atomtechnika" szerkeszto bizottsagi
    tagja.

BUKI, Gergely (Budapest, XI., Sztoczek u.2-4)

Thermodynamic principles of determining the geometric system
of cooling cylindrical nuclear reactors. Periodica polytechn
eng 8 no.1:43-56 '64.

1. Kafedra teplovykh elektrostantsiy Budapeshtskogo politekh-
nicheskogo instituta. Submitted June 6, 1963.

L 55885-65   EWT(1)/EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EPR   Pr-4/Ps-4/Pu-.   WW/JW
ACCESSION NR: AP4046513   H/0008/64/000/009/0433/0439

AUTHOR: Buki, G. (Docent)

TITLE: Principles of the investigation and evaluation of reactor cooling thermodynamics

SOURCE: Energia es atomtechnika, no. 9, 1964, 433-439

TOPIC TAGS: nuclear reactor, plant material, shielding material, plant efficiency, steady load, reactor cooling system efficiency, thermal efficiency, electrical efficiency, optimal performance, maximum performance

ABSTRACT: This study analyzes the basic relations by which reactor cooling thermodynamics can be investigated and evaluated. These relations are useful in that with them reactor thermal efficiency and cooling efficiency may be obtained, and they would make it possible to design a reactor of ideal electrical efficiency, for these relations show that such reactor characteristics depend on reactor physics and heat engineering factors. In addition, by their proper application new ways of improving reactor cooling may be found.   The three basic problems in reactor design are theoretically analyzed: 1) obtaining heat efficiency from the reactor;

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L 55885-65

ACCESSION NR: AP4046513

2) ensuring reactor cooling system efficiency; 3) determination of the electrical efficiency which can be realized with the reactor. It is pointed out that optimal performance is often identical with maximum performance, especially in those cases where the limiting circumstances of shielding and plant material do not alone determine boundary efficiency, but other limiting factors play a role. In conclusion, the author expresses the intention of reporting in the near future on the possibility of making several such improvements in the reactor cooling system. Orig. art. has: 40 formulas and 9 figures.

ASSOCIATION: Budapesti Muszaki Egyetem Hoeromuvek Tanszeke, Budapest (Budapest Technical University, Department of Heat Engines)

SUBMITTED: 00   ENCL: 00   SUB CODE: NP, TD

NO REF SOV: 002   OTHER: 007

Card 2/2

BUKI, G.

"Reactor building raw materials with special regard to metals" by
K.Lintner, E.Schmid.Feviewed by G.Buki. Periodica polytechn eng 6 no.
4:319-320 '62.

BUKI, Imre, okl.gepeszmernok

Examination of heat bransfer of liquid atomizers. (To be contd.)
Energia os atom 15 no.2:49-54 F '62.

1. A Budapesti Muszaki Egyetem Hoeromuvek Tanszeke tudomanyos

H/008/62/000/004/001/003
D249/D302

AUTHOR: Büki, Imre

TITLE: Examination of heat transfer in liquid atomizers. II

PERIODICAL: Energia és atomtechnika, no. 4, 1962, 145 - 151

TEXT: In the first part of the paper the methods of Giffen, Mura-shev and Novikov are appraised to determine the efficiency of eddy chamber atomizers. A new method is suggested for the calculation. A friction free flow and 0 overpressure all over the outflow orifice are assumed. The axial velocity was calculated from the energy equa-tion of the liquid, when the tangential component originating from the free eddy was known. Radius of the air gap was assumed so large that under the given conditions the measure of outflow should be a maximum. The deductions resulted in a formula containing the effi-ciency in an implicit form. Determination from this is possible by graphical methods or by iteration, yielding satisfactory results in the case of industrial atomizers. The significance of this deduction is to provide information about the distribution of velocity in the film of liquid leaving the atomizer. Formulas are given for the va-
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riation of the axial and tangential velocities in the outflow orifi-
ce. The sum of these velocity components is constant, but its direc-
tion changes along the radius within the thickness of the film of
liquid. The direction of these velocities is such that the particles
of liquid do not separate after leaving the atomizer, but form a
continuous film. Shape of the film is determined by the mean direc-
tion of the departing liquid which can be calculated from the rela-
tion of the mean axial and tangential velocities. Not considering
the effects of external forces, the shape of the film will be a hy-
perboloid of rotation; its geometrical measurements and their de-
pendence on the measurements of the atomizer are described. The
film of liquid is not stable, in which vibrations of different wave-
lengths occur due to internal disturbances. These lead to cracking
up of the film and its disintegration into droplets. Distance of
disintegration measured along the axis of the atomizer will depend
on the velocity of the outflow, the radius of the orifice, the den-
sity, viscosity and surface tension of the liquid. A formula is ob-
tained for this length. The force of friction acting on the unit
surface of the film is calculated. The heat transfer taking place
in the film of liquid is investigated by the similarity of impulse
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and quantity of heat exchange. As a result a formula is deduced for
the factor of heat transfer as a linear function of friction force
acting on the unit surface of the film. Finally the heat transfer
taking place in the liquid mist is investigated. Applying the ap-
proximate formula derived here, the changes of the average tempera-
ture of the liquid mist can be found as a function of the time
passed since the formation of droplets. Heat transfer taking place
in the liquid mist is of less significance in the case of condensa-
tion. By applying formulas derived in this paper it can be found
that the differences between the temperature of the vapor phase and
that of the inflowing liquid -- which is a possible measure of warm-
ing up -- occurs to a considerable degree in the film phase. There
are 2 figures and 23 references: 1 Soviet-bloc and 22 non-Soviet-
bloc. The 4 most recent references to the English-language publica-
tions read as follows: A.H. Shapiro, A.J. Erickson, ASME, 79, no. 4,
1957, 775; K.P. Fraser, P. Eisenklam, Trans. Instn. Chem. Engrs.,
v. 34, 294, 1956; T. Karman, Collected Works, v. III, London, 1956;
E. Giffen, A. Murashev, Atomization of Liquid Fuels, London, Chap-
man and Hall, 1953.

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Examination of heat transfer in ...   H/008/62/000/004/001/003
                                        D249/D302

ASSOCIATION: Budapesti műszaki egyetem hőerőművek tánszeke (Techni-
             cal University Budapest, Department of Heat Engines)

Card 4/4

OCSAI, Mihaly; BUKI, Imre

    Calculating energy production costs of atomic power plants on the
same principle. Energia es atom 13 no.3:124-134 Mr '60.

    1. Eromu Tervezo Iroda (for Ocsai). 2. Muszaki Egyetem,
Hoeromuvek Tanszek (for Buki).

H/008/62/000/002/001/002
B123/B101

AUTHORS: Büki, Imre, Mechanical Engineer, Scientific Co-worker

TITLE: Study of the heat transfer of atomizers

PERIODICAL: Energia és Atomtechnika, no. 2, 1962, 49 - 54

TEXT: This is the first part of an investigation conducted for the pur-
pose of gaining a better insight into heat transfer which plays a signifi-
cant role in the injection of liquid particles in the gas chambers of many
chemical devices. The decomposition of a liquid into drops, the formation
of a jet, and the influence of longitudinal and transverse vibrations in
the jet are discussed. A high rate of outflow results in a considerable
heat exchange, but the large diameter of the drops furnishes a small ratio
of surface to volume. However, the drops formed after the dispersion of
the jet are large, which is unfavorable from an economic point of view.
The situation is more favorable with a liquid fan which is formed when
two jets are directed to each other at a definite angle. The fan is thin,
the surface-to-volume ratio is large, and a turbulent flow occurs inside.
Whirling atomizers are discussed next, in which the liquid is set in
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Study of the heat transfer of atomizers

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turbulent motion before it flows out through the opening. The role of the drop phase must not be neglected, and the course of heat conduction in the drops must therefore be known. An attempt was made to determine the entire decomposition of liquid for any kind of atomization. Apart from lift and drag the motion of the liquid fog is governed by the laws of free fall. These effects are negligible in rotary condensers. There are 3 figures.

ASSOCIATION: Budapesti Müszaki Egyetem Höerömürek Tanszéke (Department of Thermal Energy, Technical University, Budapest)

Card 2/2

ACC NR: AR7004036 (A) SOURCE CODE: UR/0081/66/000/022/M005/M005

AUTHOR: Buki, Yu. M.; Filippova, Z. K.

TITLE: Effect of surface-active agents on the mechanical properties of high strength sintered corundum

SOURCE: Ref. zh. Khimiya, Part II, Abs. 22M34

REF SOURCE: (Sb. nauchn. tr.) Ukr. n. -i. in-t ogneuporov, vyp. 8(55), 1965, 76-86

TOPIC TAGS: corundum, sintering, surface-active agent, lubricant surface active. agent, mechanical property

ABSTRACT: The effect of the following surface-active agents on the strength properties of corundum ceramics has been investigated: water, H_2SO_4 and HCl solutions; paste based on secondary alcohols, oleic acid; self-emulsifying oil; and turpentine. The tensile strength of corundum ceramics is lowered most by water, oleic acid, self-emulsifying oil, and turpentine. In machining of corundum ceramics, surface-active agents are recommended for lowering the strength characteristics, for lubrication and for cooling. In practice, however, water and acids, being the

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ACC NR: AR7004036

most active surface-active agents, cannot be used for machining corundum ceramics since they corrode machines and do not lubricate. Exposure to surface-active agents insignificantly lowers the strength of ceramics. However, environmental humidity considerably reduces the strength properties of ceramics. Orig. art. has: a bibliography of 11 reference items. Author's abstract. [Translation of abstract]   [AM]

SUB CODE: 11/

Card 2/2

L 22195-65   EPF(n)-2/EPA(s)-2/EPA(w)-2/EWA(m)//EWA(b)//EWP(t)   Pt-10/Pi-4/Pu-4

ACCESSION NR: AP5002181   S/0032/65/031/001/0113/0114

AUTHORS: Buki, Yu. M.; Rutman, L. M.

TITLE: Determination of the limits of tensile strength for ceramic materials

SOURCE: Zavodskaya laboratoriya, v. 31, no. 1, 1965, 113-114

TOPIC TAGS: ceramic material, tensile strength

ABSTRACT: The method and apparatus are described by which the tensile strength of
ceramic and other brittle materials can be measured. The samples are made in the
form of thin-walled cylinders into which is introduced high-pressure liquid. From
the basic laws of hydrostatics the pressure of the liquid is uniform at the bound-
ary surface and is normal to it. Thus, uniform tangential tensile stresses are
created in the wall of the cylinder. For thin-walled cylinders the tensile
strength is given by

$$\sigma_p = \frac{pr}{t},$$

where p is the hydrostatic pressure at the moment of rupture of the sample, r is
the radius of the cylinder, and t is the wall thickness. The mean square error
in measurements using this method does not exceed 2.3%. Orig. art. has:

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ACCESSION NR: AP5002181

2 equations and 1 diagram.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractory Materials)

SUBMITTED: 00   ENCL: 00

SUB CODE: MT   NO REF SOV: 001   OTHER: 002

Card 2/2

BUKI, Yu.M.

Ukrainian Conference on Industrial and Automatic Control Devices.
Priborostroenie no.9:32 S '62.   (MIRA 15:9)
        (Automatic control) (Ukraine--Production control)

BUKI, Yu.M.

"Assembly and operation of control and measuring instruments"
by M.D.Kuzin. Reviewed by IU.M.Buki. Prom.energ. 17 no.10:
51 O '62.   (MIRA 15:9)
                (Automatic control) (Kuzin, M.D.)

LEVONTIN, L.I., inzh.; BUKI, Yu.M., inzh.

Pneumatic and electric level indicator for loose materials.
Mekh. i avtom. proizv. 17 no.8:44-45 Ag '63.   (MIRA 16:10)

ROZHANSKIY, Z.Ye., inzh.; BUKI, Yu.M., inzh.

Automatic voltage limiter for the idling of welding trans-
formers. Svar. proizv. no.1:34-35 Ja '64.

(MIRA 17:1)

1. Khar'kovskiy stroitel'nyy tekhnikum.

L. 53626-65

ACCESSION NR: AP5016253

UR/0122/64/000/011/0082/0083

AUTHOR: Buki, Yu. M. (Engineer) ✱

TITLE: Scientific and technical seminar on diamond tools and diamond finishing processes

SOURCE: Vestnik mashinostroyeniya, no. 11, 1964, 82-83

TOPIC TAGS: diamond, machine industry finishing machine, machine tool, mechanical engineering conference, production engineering

Abstract: The Seminar was organized by the Moscow House of Scientific and Technical Propaganda, the Scientific Research Institute of Diamonds and the Scientific and Technical Department of the Machine Industry of the MGP (expansion not available) and held in February 1964 in Moscow. Representatives of industrial enterprises, scientific research, educational and planning institutes participated in the seminar. Reports were given by: P. M. IPPOLITOV (Council of National Economy USSR) on the important part played by diamond finishing in the machine building industry; Candidate of Technical Sciences N. S. DEGTYARENKO (All-Union Scientific Research Institute of Instruments) on the advantages of diamond wheels over silicon carbide wheels for tool grinding; Ye. A. STORCHAK (Scientific Research In-

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ACCESSION NR: AP5016253   4

.stitute of Diamonds) on finishing bearing steels with diamond wheels, slabs
and belts; Cand. of Tech. Sci, V. A. KHRUL'KOV and Engineer P. V. BERNT
(Scientific Research Institute of Diamonds) on diamond finishing of criti-
cal parts made of hard metals; Cand. of Technical Sci. M. S. NAYERMAN and
Cand. of Tech. Sci. I. Ye. FRAGIN (Scientific Research Institute of Trac-
tors and Agricultural Machinery) on experience in honing automobile and
tractor parts with diamond slabs; Cand. Tech. Sci. V. A. FEDOTOV (Scien-
tific Research Institute of Diamonds) on finishing of non-metallic experi-
mental materials which would be impossible or extremely difficult without
the use of a diamond tool; Cand. of Tech. Sci. L. K. PETROSYAN (State Com-
mittee on Machine Building) on comparative tests of natural and artificial
diamond wheels; Engineer E. Ye. TSOFIN (Experimental Scientific Research
Institute of Metal-Cutting Machine Tools) on modernization of existing
machine tools and prospects for creating new ones for diamond grinding and
finishing of metal cutting instruments; Engineer Yu. V. ALFEYEV (State Com-
mittee on Machine Building) on diamond tools and attachments for bench
work; Cand. of Tech. Sci. S. A. POPOV (MVTU /expansion not available/) on
research to determine the optimum concentration of diamond wheels; Engin-
eer Ya. I. IZRAYLOVICH (Scientific Research Institute of Diamonds) on the

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ACCESSION NR: AP5016253

properties and fields of application of diamond powder; Cand. of Tech. Sci.
G. A. KRUGLOV on diamond cutters in the watchmaking industry; Engineer
V. V. VASILEVSKIY (Scientific Research Institute of Diamonds) on the use of
diamonds in wheel cutters for cutting natural stone; Engineer I. P.
REKSHINSKAYA on diamond grinding and finishing of cutting tools In the

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: IE, MT

NO REF SOV: 000   OTHER: 000   * JPRS already in
                                                        file

Card 3/3

ROZHANSKIY, Zinoviy Yevseyevich; BUKI, Yuriy Markovich; ABRAMOVA,
L.I., dots., otv. red.; NESTERENKO, A.S., red.

[Practical laboratory work on the electrical equipment of
substations] Laboratornyi praktikum po elektrooborudovaniiu
podstantsii. Khar'kov, Izd-vo Khar'kovskogo univ., 1965.
120 p.   (MIRA 18:5)

TASOVAC, Borivoj, prof. dr.; CALIC-PERISIC, Nada, dr.; BUKIC, Dragica, dr.

Viral pneumonia following influenzal infection and acute myocarditis. Med. Glas. 18 no.11:372-374 N '64

1. Pedijatrijska klinika Medicinskog fakulteta Univerziteta u Beogradu (Upravnik: prof. dr. B. Tasovac)

KONECNI, Josin; PAVLOVIC-KENTERA, Vera; BUKICEVIC, Predrag; RADMIC, Sava

A case of congenital methemoglobinemia. Srpski arh. celok. lek. 89 no.10:1197-1201 O '61.

1. Interna klinika A Medicinskog fakulteta Univerziteta u Beogradu Upravnik: prof. dr Branislav Stanojevic.

(METHEMOGLOBINEMIA in inf & child)

S

POLAND/Nuclear Physics - Nuclear Power and Technology.   C

Abs Jour : Ref Zhur Fizika, No 10, 1959, 22284

Author   : Jezowska-Trzebiatowska, B., Bartecki; Chmielowska, M.,
             Przywarska, H., Mikulski, T., Bukietnynska, K., Kakolo-
             wicz, W.
Inst   : -
Title   : Studies on the Chemistry of Sesquivalent and Quadriva-
             lent Uranium in Organic Solvents.

Orig Pub : Nukleonika, 1958, 3, Spec Number, 39-58

Abstract : No abstract.

Card 1/1

- 21 -

JEZOWSKA-TRZEBIATOWSKA, B.; BUKIETYNSKA, K.

The change of Lande's interval parameter for U (IV) and the new spectrochemical series. Bul chim PAN 12 no. 2: 123-126   '64

1. Department of Inorganic Chemistry, University, Wroclaw. Presented by W. Trzebiatowski.